

## A2LA Assessor Environmental Method Checklist

### ***Total Organic Carbon (TOC)***

Item	Section 1 - Personnel	Reference	Yes-No or NA	
1.1	Does the analyst(s) interviewed meet the job description position requirements, training and qualifications for performing the test? Supervisor: _____ Technician: _____	(G25)6.1		

Item	Section 2 - Equipment & Facilities	Reference	Yes-No or NA	
2.1	Are the manufacturer's instructions for maintenance, assembly, calibration, testing and operation followed?	(CAW)415.1.8.1(1974)		
2.2	Are syringes fitted with blunt tipped needles and used for sample injection?	(SM18)5310C,2.b (1992)		
2.3	Is the needle size commensurate with the sample particle size for sample injection?	(SM18)5310B,4.c (1992)		
2.4	Are the ampules 10 mL glass and pre-combusted for the wet oxidation method?	(SM18)5310D,2.a (1992)		

Item	Section 3 - Method	Reference	Yes-No or NA	
3.1	Is the combustion-infrared method used?	(SM18)5310B,1(1992)		
3.2	Is the persulfate-ultraviolet oxidation method used?	(SM18)5310C,1(1992)		
3.3	Is the wet oxidation method used?	(SM18)5310D,1(1992)		
3.4	Is the CO <sub>2</sub> converted to methane and measured with flame ionization detector (FID)?	(SW846)9060,2.1 (1986)		
3.5	Is the combustion temperature optimized (900°C) and temperature monitored to ensure stability?	(SM18)5310B,4.a (1992)		
3.6	Is the carrier gas purified oxygen or air, free of carbon dioxide and containing less than 1 ppm hydrocarbon (as methane)?	(SM18)5310B,3.e (1992)		
3.7	Is sample homogenized until satisfactory replication is obtained for samples containing gross solids and insoluble matter?	(SW846)9060,7.1 (1986)		

### **Total Organic Carbon (TOC) (contd.)**

3.8	Is inorganic carbon removed by acid and purging?	(SM18)5310B,4.b (1992)		
3.9	Is a filter blank analyzed when measuring dissolved organic carbon?	(SM18)5310B,4.b (1992)		
3.10	Is the glass fiber filter acid treated with 1:1 HNO <sub>3</sub> overnight when measuring dissolved organic carbon by the persulfate oxidation method?	(SM18)5310C,4.b (1992)		
3.11	Is mercuric nitrate added to the persulfate solution when the chloride concentration of 0.1% is present for the oxidation method?	(SM18)5310C,1.b (1992)		
3.12	Is the oxidation efficiency checked and documented with model compounds representative of the sample matrix?	(SM18)5310C,1.b (1992)		
3.13	Is the potassium persulfate, granular reagent grade for the wet oxidation method?	(SM18)5310D,3.b (1992)		
3.14	Are sample volumes 10 mLs for the wet oxidation method?	(SM18)5310D,4.a (1992)		
3.15	Are the ampules autoclaved and digested for 4 hours at temperatures between 116°C and 130°C for the wet oxidation method?	(SM18)5310D,4.a (1992)		
3.16	Are samples analyzed in quadruplicate with the range and average reported for EPA RCRA programs?	(SW846)9060,7.6 (1986)		

Item	Section 4 - Sample Handling Practices	Reference	Yes-No or NA	
4.1	Are samples preserved with HCl, H <sub>2</sub> SO <sub>4</sub> , H <sub>3</sub> PO <sub>4</sub> to pH <2, and cooled to 4°C, when analysis is not started immediately?	(CFR136)Table II(1994)		
4.2	Are samples analyzed within 28 days from the date of sample collection?	(CFR136)Table II(1994)		
4.3	Are sample bottles amber glass bottles, washed with acid, sealed with aluminum foil and baked at 400°C for at least one hour?	(SM18)5310B,1.d (1992)		
4.4	Are the caps and septa washed with detergent, organic free water, sealed with aluminum foil and baked at 100°C for 1 hour?	(SM18)5310B,1.d (1992)		
4.5	Are plastic bottles used for sampling and storage and established to be free of organic carbon?	(SW846)9060,6.2 (1986)		

Item	Section 5 - Quality Control Practices	Reference	Yes-No or NA	
5.1	Is a reagent blank run with each batch?	(SW846)9060,8.2 (1986)		
5.2	Is carbon dioxide free water, double distilled reagent water used?	(CAW)415.1,7.1(1974)		
5.3	Is carbon free water used?	(SM18)5310B,3.a		

***Total Organic Carbon (TOC) (contd.)***

		(1992)		
5.4	Is a standard curve prepared that brackets the measurement range?	(SW846)9060,7.5 (1986)		
5.5	Are the data corrected for the procedural blanks when necessary?	(SM18)5310B,4.d (1992)		
5.6	Are organic carbon concentrations based on corrected peak heights to the calibration curve?	(SM18)5310B,4.d (1992)		